IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Patent Application of

BLADSJÖ et al. Atty. Ref.: 2380-1228

Serial No. 10/576,873 Group: 2617

Filed: April 21, 2006 Examiner: Batista, Marcos

For: METHOD AND ARRANGEMENT FOR POLLING MANAGEMENT

* *

August 26, 2009

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

I. REAL PARTY IN INTEREST

The real party in interest is the assignee, Telefonaktiebolaget L M Ericsson (publ), a Swedish corporation.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals related to this subject application. There are no interferences related to this subject application.

III. STATUS OF CLAIMS

Claims 30-33, 35, 36, and 38-71 are pending in the application. Claims 1-29, 34, 37, and 72-76 are canceled. Claims 30-33, 35, 36, and 38-71 are finally rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

The amendment dated June 25, 2009 filed after the final rejection was entered for purposes of appeal by the Examiner in the Advisory Action dated July 8, 2009.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The technology in this case relates to relates to polling of user equipment 30 in a packet-based mobile radio communication system 10, e.g., GPRS/EDGE systems. See Figure 1. Latency or round-trip time (RTT) is one of the most important system characteristics in packet-based radio communication systems. The RTT is the time that it takes for a data packet to traverse the system from the client to the server and back to the client, and thus, is important to the end-user experience and the system performance. The smaller the RTT, the less time is spent on application-level signaling and higher-level protocol signaling resulting in shorter download times and quicker response times, e.g., in interactive applications. In other words, the lower the latency, the better the performance of

applications such as web browsing, e-mail, interactive games, voice services, and more.

Some mobile radio communication systems permit pre-reservation of uplink radio resources in order to reduce the latency or round trip time (RTT) of the system. For example, the extended uplink temporary block flow (UL_TBF) in 3GPP (3rd Generation Partnership Project) release 4 (3GPP R4) enables this pre-reservation of uplink radio resources which permits the RTT to be reduced from about 450 milliseconds (prior to 3GPP_R4) to about 200 milliseconds (with the extended uplink temporary block flow). But a problem with UL_TBF and the pre-reservation of radio resources is that in order to maintain the pre-reserved resource, the mobile terminal/user equipment must transmit an extensive amount of data. The data transmission is mandatory regardless of whether the mobile terminal has any user data to send. This leads to transmission of large amounts of "dummy data" on the uplink. Transmission of such "dummy data" on the uplink is costly in terms of reduced battery time in the mobile terminal as well as increased radio interference resulting in reduced network capacity. In a non-limiting example described in the background section of this application, reducing the RTT from 450 milliseconds to 200 milliseconds may reduce the mobile terminal's battery life by more than 50 percent and increase the uplink interference in a GPRS system from a GPRS mobile terminal by more than a 100 percent.

The technology in this application employs polling functionality in a packet-based data communication system that reduces latency but not at the expense of reduced battery life and/or increased uplink interference. That polling functionality separates the pre-reservation of a shared uplink resource from presence check polling by providing two different types of polling from the base station system. The first type allows the targeted user equipment to transmit user data packets if the user equipment has any packets available for transmission; otherwise, the user equipment can remain silent in response to a poll from the base station system. The second type of polling requires the targeted user equipment to transmit user data packets if any are available or transmit dummy data packets if user data packets are not available in order to signal its presence on the pre-reserved resource on the uplink in response to the issued polling, thereby making it possible to monitor the quality of and to maintain the pre-reserved link/channel.

The following claim charts provide a mapping of the independent claims onto non-limiting example embodiment text from the specification and figures by reference numerals where appropriate. This mapping is not intended to be used for claim construction. The non-limiting example embodiment shown in Figure 5 is reproduced here for convenience.

30. A method of polling in a packet-based data communications system, said communications system comprising a base station system polling connected user	Figure 1 shows an example packet-based data communications system with base station subsystem 20 and mobile stations 30. Figure 2 shows

equipment, wherein said polling is performed according to:	an example polling method for the base station subsystem 20.
a first type of polling allowing said user equipment to choose whether or not to transmit a data packet to the base station system in response to reception of polling of the first type, and	The base station subsystem 20 determines which type of polling to perform: a first or second type. The first type of polling allows the UE to send a user data packet UP or nothing in steps S2 and S3 of Figure 2. See page 5, lines 27-28.
a complementary second type of polling requiring the user equipment to transmit a data packet to the base station system in response to reception of polling of the second type,	The complementary second type of polling requires the UE to transmit a data packet in response to reception of polling of the second type. Steps S4 and S5 of Figure 2. See page 6, lines 4-6
wherein said first type comprises polling with an uplink state flag and said second type comprises polling with a control block.	"[T]he polling of type one T1 can comprise polling with an uplink state flag and the polling of type two T2 can comprise polling with a control block." Page 6, line 32-page 7, line 2.

40. A polling arrangement in a base station system of a packet-based communications system, said polling arrangement being adapted to polling of user equipment, wherein said arrangement comprises:	Figure 1 shows an example packet-based data communications system with base station subsystem 20 and mobile stations 30. Figure 2 shows an example polling method for the base station subsystem 20.

first means for polling according to a first type, allowing the user equipment to choose whether or not to transmit a data packet in response to reception of the polling, and	The base station subsystem 20 includes a type 1 polling means 44, see Figures 5 and 6 and page 9, lines 18-20. The first type of polling allows the UE to send a user data packet UP or nothing in steps S2 and S3 of Figure 2. See page 5, lines 27-28.
complementary second means for polling according to a second type, requiring the user equipment to transmit a data packet or in response to reception of the polling,	The base station subsystem 20 includes a type 2 polling means 46, see Figures 5 and 6 and page 9, lines 18-21. The complementary second type of polling requires the UE to transmit a data packet in response to reception of polling of the second type. Steps S4 and S5 of Figure 2. See page 6, lines 4-6.
wherein said first polling type comprises polling with an uplink state flag and said second polling type comprises polling with a control block.	"[T]he polling of type one T1 can comprise polling with an uplink state flag and the polling of type two T2 can comprise polling with a control block." Page 6, line 32-page 7, line 2.

44. A base station system in a packet-based data communications system, said base station system being adapted to polling connected user equipment, wherein said base	Figure 1 shows an example packet-based data communications system with base station subsystem 20 and mobile stations

station system comprises	30. Figure 2 shows an example polling method for the base station subsystem 20.
- first circuitry adapted for polling according to a first type, said first polling type allowing said user equipment to choose whether or not to transmit a data packet to the base station system in response to reception of polling of the first type and,	The base station subsystem 20 includes type 1 polling circuitry 44, see Figures 5 and 6 and page 9, lines 18-20. The first type of polling allows the UE to send a user data packet UP or nothing in steps S2 and S3 of Figure 2. See page 5, lines 27-28.
- complementary second circuitry adapted for polling according to a second type, said second polling type requiring the user equipment to transmit a data packet to the base station system in response to reception of polling of the second type,	The base station subsystem 20 includes type 2 polling circuitry 46, see Figures 5 and 6 and page 9, lines 18-21. The complementary second type of polling requires the UE to transmit a data packet in response to reception of polling of the second type. Steps S4 and S5 of Figure 2. See page 6, lines 4-6.
wherein said first polling type comprises polling with an uplink state flag and said second polling type comprises polling with a control block.	"[T]he polling of type one T1 can comprise polling with an uplink state flag and the polling of type two T2 can comprise polling with a control block." Page 6, line 32-page 7, line 2.

50. A base station system node in a packet-	Figure 1 shows an example

based data communications system, said node being adapted to polling connected user equipment, wherein said node comprises	packet-based data communications system with base station subsystem 20 that includes a base station node and mobile stations 30. Figure 2 shows an example polling method for the base station subsystem node.
- first circuitry adapted for polling according to a first type, said first polling type allowing said user equipment to choose whether or not to transmit a data packet to the base station system in response to reception of polling of the first type and	The base station subsystem 20 includes type 1 polling circuitry 44, see Figures 5 and 6 and page 9, lines 18-20. The first type of polling allows the UE to send a user data packet UP or nothing in steps S2 and S3 of Figure 2. See page 5, lines 27-28.
- complementary second circuitry adapted for polling according to a second type, said second polling type requiring the user equipment to transmit a data packet to the base station system in response to reception of polling of the second type,	The base station subsystem 20 includes type 2 polling circuitry 46, see Figures 5 and 6 and page 9, lines 18-21. The complementary second type of polling requires the UE to transmit a data packet in response to reception of polling of the second type. Steps S4 and S5 of Figure 2. See page 6, lines 4-6.
wherein said first polling type comprises polling with an uplink state flag and said second polling type comprises polling with a control block.	"[T]he polling of type one T1 can comprise polling with an uplink state flag and the polling of type two T2 can comprise polling with

	a control block." Page 6, line 32-page 7, line 2.

51. A user equipment in a packet-based data communications system, said user equipment being adapted to receive polling from a base station system in said communications system, wherein the user equipment comprises:	Figure 1 shows an example packet-based data communications system with base station subsystem 20 and mobile stations/user equipments 30.
first circuitry for receiving and responding to polling of a first type, said first circuitry being adapted for optional transmission of a data packet to the base station system in response to said polling, and	Figure 7 shows a user equipment 30 with first circuitry for receiving I/O 32 and responding to polling of a first type 34. Page 10, lines 5-8. The first type of polling allows the UE to send a user data packet UP or nothing. See page 5, lines 27-28.
complementary second circuitry for receiving and responding to polling of a second type, said second circuitry being adapted to mandatory transmission of a data packet to the base station system in response to the polling,	Figure 7 shows a user equipment 30 with complementary second circuitry for receiving I/O 32 and responding to polling of a second type 36. Page 10, lines 5-10. The complementary second type of polling requires the UE to transmit a data packet in response to reception of polling of the second type. See page 6, lines 4-6.
wherein said first polling type comprises	"[T]he polling of type one T1 can

polling with an uplink state flag and said second polling type comprises polling with a control block.	comprise polling with an uplink state flag and the polling of type two T2 can comprise polling with a control block." Page 6, line 32-page 7, line 2.

56. A system for polling in a packet-based data communications system adapted to polling said system comprising:	Figure 1 shows an example packet-based data communications system with base station subsystem 20 and mobile stations/user equipments 30.
means adapted for polling user equipment in said communications system according to a first type and a complementary second type,	The base station subsystem 20 includes type 1 polling means 44 and type 2 polling means 46, see Figures 5 and 6 and page 9, lines 18-21.
first responding means adapted for optionally transmitting a data packet from said user equipment to a base station system in response to reception of polling according to said first type, and	Figure 7 shows a user equipment 30 with first means 32, 34 for transmitting a data packet to a base station system in response to reception of polling according to a first type. Page 10, lines 5-8. The first type of polling allows the UE to send a user data packet UP or nothing. See page 5, lines 27-28.
complementary second responding means adapted for obligatory transmission of a data packet to the base station system in	Figure 7 shows a user equipment 30 with complementary second means 32, 36 obligatory

response to reception of polling according to said complementary second type,	transmission of a data packet in response to polling of a second type 36. Page 10, lines 5-10. The complementary second type of polling requires the UE to transmit a data packet in response to reception of polling of the second type. See page 6, lines 4-6.
wherein said first polling type comprises polling with an uplink state flag and said second polling type comprises polling with a control block.	"[T]he polling of type one T1 can comprise polling with an uplink state flag and the polling of type two T2 can comprise polling with a control block." Page 6, line 32-page 7, line 2.

67. A method for operating a user equipment in a packet-based data communications system, where the user equipment receives polling from a base station system in the communications system, the method comprising:	Figure 1 shows an example packet-based data communications system with base station subsystem 20 and mobile stations/user equipments 30. See the method outlined in Figure 3.
receiving polling of a first type;	See step S10 in Figure 3 and page 7, lines 16-18.
optionally transmitting a data packet to the base station system in response to the first type of polling; and	See step S13 in Figure 3 and page 7, lines 21-25.
receiving and automatically responding polling of a second type, wherein the user	See steps S10-S16 in Figure 3 and page 7, lines 16-18 and page 8,

equipment must transmit a data packet to the base station system in response to the second type of polling,	lines 1-7.
wherein said first polling type comprises polling with an uplink state flag and said second polling type comprises polling with a control block.	"[T]he polling of type one T1 can comprise polling with an uplink state flag and the polling of type two T2 can comprise polling with a control block." Page 6, line 32-page 7, line 2.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The sole ground of rejection to be reviewed by the Board is the rejection of claims 30-33, 35, 36, and 38-71 under 35 U.S.C. §103 as being unpatentable based on Rinchiuso, Le, and Tan.

VII. ARGUMENT

The Obviousness Rejection of Claims 30-33, 35, 36, and 38-71 Under 35 U.S.C. §103 Based on Rinchiuso, Le, and Tan Is Improper

1. The Legal Standard For Obviousness

An invention is obvious only "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains." 35 U.S.C. §103. Obviousness is a legal conclusion based on underlying findings of fact. *In re Dembiczak,* 175 F.3d 994, 998 (Fed. Cir. 1999). The underlying factual inquiries are: "(1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness." *Id.*

In *KSR International Co. v. Teleflex, Inc.,* 127 S. Ct. 1727, 1739 (2007), the Supreme Court rejected the Federal Circuit's rigid application of the teaching-suggestion-motivation ("TSM") test. However, in evaluating obviousness in light

of multiple interrelated patents, a determination must still be made "whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *Id.* at 1741. The Examiner must provide an explicit analysis with supported, articulated reasoning, that includes "an apparent reason to combine the known elements" in the manner claimed. *Id.* at 1740-41 ("To facilitate review, this analysis should be made explicit."). The Supreme Court stated that this requirement cannot be satisfied by conclusory statements without articulated reasoning and some rational underpinning to support the legal conclusion of obviousness. *Id.* at 1741.

2. The Combination of Rinchiuso, Le, and Tan Does Not Teach What Is Claimed

Representative claim 30 recites: "a first type of polling allowing said user equipment to choose whether or not to transmit a data packet to the base station system in response to reception of polling of the first type" and "a complementary second type of polling requiring the user equipment to transmit a data packet to the base station system in response to reception of polling of the second type." This combination of features is missing from the applied references.

The primary reference to Rinchiuso only teaches one type of polling. Temporary block flows (TBFs) are used to transfer data packets in a GPRS system where the data channel remains active with multiple users sharing access to the channel. Normally, when a data transmission ceases, a base station terminates the temporary block flow by setting a final block indicator bit (FBI) to 0. But in

Rinchiuso, a transmitting entity holds on to the temporary block flow for an extended delay period in order to "obtain measurement data from the mobile and give the mobile opportunities to establish an uplink TBF." See [0051]. To accomplish this, "dummy radio link control (RLC) data will be at least occasionally be transmitted by the network during the time period that the network is holding the downlink TBF. During delayed release of an uplink TBF, the mobile is requested to occasionally transmit uplink blocks during the time period that the network is holding the uplink TBF. This time period allows the network to establish a downlink TBF and/or provides the mobile an opportunity to extend the uplink TBF without establishing another uplink TBF." (Emphasis added) *Id.* See also [0019].

The Examiner admits that Rinchiuso only describes one type of polling, referring to paragraphs [0025] and [0057] and Figure 12, which requires that the mobile terminal transmit dummy uplink control (at blocks 1104 in Figure 11 and at 1204 in Figure 12) if no data is available to keep the channel up. Accordingly, Rinchiuso fails to disclose the first type of polling which allows the user equipment to "choose whether or not to transmit a data packet to the base station in response to reception of polling of the first type." The user equipment in Rinchiuso does not have the option of not sending some sort of data packet in response to polling.

Le also only teaches one type of polling where the wireless devices "are not required to upload data responsive to being polled and in many cases do not." See paragraph [0008]. Nor does Tan teach using the claimed two different types of polling. Tan only uses one type of centralized in-band polling scheme. See paragraph [0060]. Thus, none of the three applied references teaches using or recognizes the benefits of using the claimed two different types of polling techniques. Accordingly, the rejection is improper.

3. The Combination of Rinchiuso, Le, and Tan Also Fails to Teach Polling With An Uplink State Flag for the First Type and Polling with a Control Block for the Second Type

In addition to the deficiencies noted above, the Examiner admits that neither Rinchiuso nor Le teaches the independent claim features: "wherein said first polling type comprises polling with an uplink state flag and said second polling type comprises polling with a control block." The Examiner relies on a third reference to Tan. Tan describes a quality packet radio service to enhance a slow General Packet Radio Service (GPRS) medium access procedure to include fast in-session access capability. All the services in the quality packet radio service are assigned uplink radio channel resources only when they have active data to send. See Abstract.

The Examiner relies on paragraph [0060] as allegedly describing the quoted claim feature above. A relevant portion of this paragraph is quoted below for convenience:

> Uplink multiplexing is accomplished by assigning to each data transfer a set of channels and a unique Uplink State Flag (USF) for each of these channels. The Uplink State Flag is 3 bits long, allowing up to 7 different data transfers to be multiplexed on one channel (the Uplink State Flag=111 is reserved by the network). The Base Station Subsystem uses a centralized in-band polling scheme to poll the desired mobile subscriber station. This is accomplished by setting the Uplink State Flag in the MAC header of the Radio Link Control block transmitted over the corresponding downlink channel to an appropriate value identifying the specific data transfer. Thus, a mobile subscriber station listens to all the downlink channels that are paired with the uplink channels assigned to it. If its Uplink State Flag appears on a downlink channel, then the mobile subscriber station uses the corresponding uplink channel in the next logical frame to send its data.

From this text it is clear that Tan only describes one polling scheme and the use of only an Uplink State Flag to polls the mobile station in accordance with the one "centralized in-band polling scheme" described. A control block is not disclosed at being used to implement a second different type of polling scheme from the "centralized in-band polling scheme."

Thus, the combination of Rinchiuso, Le, and Tan fails to teach multiple features of the independent claims as explained in sections 2 and 3 above.

4. The Combination of Rinchiuso, Le, and Tan Is Improper

Nor is there any reasonable basis for combining the one type of polling used in Rinchiuso with the one type of pooling used in Le as the Examiner suggests. Rinchiuso gives many different reasons why the mobile terminal must

transmit dummy data even when the mobile does not have data to send in order to solve the problem Rinchiuso identifies in paragraph [0004]: "Therefore a need exists for a method and apparatus for data transmission within a communication system that minimizes the number of times a user moves from a Control Hold state to an Active state." For example, paragraph [0051] states "During delayed release of an uplink TBF, the mobile is requested to occasionally transmit uplink blocks during the time period that the network is holding the uplink TBF. This time period allows the network to establish a downlink TBF and/or provides the mobile an opportunity to extend the uplink TBF without establishing another uplink TBF." Additional reasons why Rinchiuso wants dummy data to be sent are described at paragraph [0052].

By only holding an uplink channel "open" by sending dummy data so that a mobile station without current data to send does not have to set up a new uplink channel in order to send data a short time period later, Rinchiuso also contradicts what Le is trying to do. Le's channels are time slots. Le specifically criticizes the idea of not using all time slots to actively always transport substantive data. See for example [0005]. So the Examiner's rationale for combining Le's polling method with Rinchiuso's polling method does not make sense. Le wants to make sure that the slots are always used to transport actual mobile data as opposed to sending dummy data. Rinchiuso, on the other hand, purposefully sends dummy data on uplink channels to hold those channels captive to a mobile station even

though the mobile station does not have current substantive data to send just in case the mobile station may have data to send in a short time. So combining these two references as the Examiner proposes defeats their respective stated objectives—contrary to Federal Circuit case law. See, e.g., *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1992).

The inventors in this case recognized an unexpected value in employing two different types of base station polling. In the first type of polling, it is optional for the mobile terminal to respond, and if it responds, it does so by transmitting a user data packet when there is one ready to send. For the second of type of polling, it is mandatory for the mobile terminal to respond even if there is no user data packet to transmit. As recited in dependent claims, in the second type of polling, the mobile terminal transmits one or more dummy packets if no user data packets are available to transmit in response to the second type of polling.

By incorporating these seemingly incompatible polling functionalities in a packet-based data communication system, the claimed technology reduces latency and at the same time avoids unnecessary battery drain and/or interference. And while it is easy for the Examiner to parrot back these advantages as a reason for combining Rinchiuso and Le, that would be improper hindsight since neither reference appreciated that this was even a possibility. Indeed, a reading of both references indicates that Rinchiuso and Le counsel against such a combination for the reasons explained above. "A reference may be said to teach away when a

person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994).

Nor is it reasonable to characterize the rejection as simply a matter of putting two techniques together. It is well-established that an Examiner is not permitted to pick out a few selected teachings from each reference and ignore other teachings in those references. See e.g., *In re Hedges*, 783 F.2d 1038 (Fed. Cir. 1986). Rather, it is black letter patent law that claims and prior art references must be considered "as a whole," including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). Here, one of ordinary skill in the art, after considering all of the teachings of Rinchiuso and Le and their very different objectives, would not have combined them in the manner suggested by the Examiner.

5. The Combination of Rinchiuso, Le, and Tan Fails to Teach Dependent Claim Features

Several dependent claim features are also missing from both Rinchiuso, Le, and Tan. For example, claims 31, 41, 46, 55, and 71 recite polling according to a first type on a first logical channel and polling according to a complementary second type on a second logical channel. The Examiner refers to figure 7 and [0049] in Rinchiuso. Figure 7 simply illustrates uplink transmission (not any type

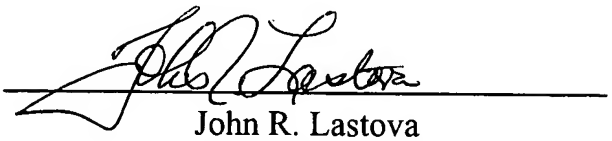
of polling) on a first frequency and downlink transmission (not any type of polling) on a second frequency. [0049] describes the TBF as a logical connection and that any user who wants to transmit or receive will be assigned a logical channel that will use a physical data channel. But there is no specific teaching of first and second different logical channels. Nor is there a teaching of polling according to a first type on a first logical channel and polling according to a complementary second type on a second logical channel.

CONCLUSION

Thus, there are two separate grounds upon which the rejection based on Rinchiuso, Le, and Tan should be withdrawn. First, the combination of Rinchiuso, Le, and Tan fails to teach all the features of the independent claims. Second, there is no legal basis for the proposed modification and combination of Rinchiuso and Le. The final rejection should be reversed, and the application passed to allowance.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 

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Appendix A - Claims on Appeal

VIII. CLAIMS APPENDIX

30. (Previously Presented) A method of polling in a packet-based data communications system, said communications system comprising a base station system polling connected user equipment, wherein said polling is performed according to:

a first type of polling allowing said user equipment to choose whether or not to transmit a data packet to the base station system in response to reception of polling of the first type, and

a complementary second type of polling requiring the user equipment to transmit a data packet to the base station system in response to reception of polling of the second type,

wherein said first type comprises polling with an uplink state flag and said second type comprises polling with a control block.

31. (Previously Presented) A method according to claim 30, wherein said base station system performs polling according to the first type on a first logical channel, and performs polling according to the complementary second type on a second logical channel.

32. (Previously Presented) A method according to claim 30, wherein the base station system transmits polling information to said user equipment, said information enabling the user equipment to identify the polling type of the received polling.

33. (Previously Presented) A method according to claim 32, wherein said polling information from the base station system is based on a current radio traffic situation in the communication system.

34. Canceled.

35. (Previously Presented) A method according to claim 30, wherein the communications system is selected from at least one of:

a General Packet Radio Service (GPRS) communication system, an Enhanced GPRS (EGPRS) communication system,

a GPRS/Enhanced Data rates for GSM (Global System for Mobile communications) Evolution (EDGE) communications system,

a Wideband Code Division Multiple Access (W-CDMA) communications system,

a CDMA2000 communications system,

a Wireless Local Area Network (W-LAN) communications system.

36. (Previously Presented) A method according to claim 30,

wherein said user equipment in response to reception of said polling of the second type transmits a user data packet to the base station system if said user data packet is available for transmission in the user equipment, otherwise the user equipment transmits a dummy data packet, and

wherein said user data packet comprises user payload data and said dummy data packet comprises data enabling the base station system to identify the user equipment.

37. Canceled.

38. (Previously Presented) A method according to claim 30, wherein said user equipment in response to reception of said polling of the first type sends a user data packet to the base station system if said user data packet is available for transmission in the user equipment.

39. (Previously Presented) A method according to claim 30, wherein said user equipment in response to reception of said polling of the first type does not send any type of data packet to the base station system if a user data packet is not available for transmission in the user equipment.

40. (Previously Presented) A polling arrangement in a base station system of a packet-based communications system, said polling arrangement being adapted to polling of user equipment, wherein said arrangement comprises:

first means for polling according to a first type, allowing the user equipment to choose whether or not to transmit a data packet in response to reception of the polling, and

complementary second means for polling according to a second type, requiring the

user equipment to transmit a data packet or in response to reception of the polling,

wherein said first polling type comprises polling with an uplink state flag and said second polling type comprises polling with a control block.

41. (Previously Presented) A polling arrangement according to claim 40, wherein said arrangement is adapted to perform polling according to the first type on a first logical channel, and to perform polling according to the complementary second type on a second logical channel.

42. (Previously Presented) A polling arrangement according to claim 40, wherein the arrangement is adapted to transmit polling information to said user equipment, said information enabling the user equipment to identify the polling type of the received polling.

43. (Previously Presented) A polling arrangement according to claim 42, wherein the polling information is based on a current radio traffic situation in the communication system.

44. (Previously Presented) A base station system in a packet-based data communications system, said base station system being adapted to polling connected user equipment, wherein said base station system comprises

- first circuitry adapted for polling according to a first type, said first polling type

allowing said user equipment to choose whether or not to transmit a data packet to the base station system in response to reception of polling of the first type and,

- complementary second circuitry adapted for polling according to a second type, said second polling type requiring the user equipment to transmit a data packet to the base station system in response to reception of polling of the second type,

wherein said first polling type comprises polling with an uplink state flag and said second polling type comprises polling with a control block.

45. (Previously Presented) A base station system according to claim 44, wherein said base station system comprises third circuitry adapted for analyzing the current radio traffic situation in the communications system and for determining which type of polling to transmit.

46. (Previously Presented) A base station system according to claim 44, wherein said base station system is adapted to perform polling according to the first type on a first logical channel, and to perform polling according to the complementary second type on a second logical channel.

47. (Previously Presented) A base station system according to claim 44, wherein the base station system is adapted to transmit polling information to said user equipment, said information enabling the user equipment to identify the polling type of the received polling.

48. (Previously Presented) A base station system according to claim 47, wherein said polling information is based on a current radio traffic situation in the communication system.

49. (Previously Presented) A base station system according to claim 44, wherein the communications system is selected from at least one of:

a General Packet Radio Service (GPRS) communication system,

an Enhanced GPRS (EGPRS) communication system,

a GPRS/Enhanced Data rates for GSM (Global System for Mobile communications) Evolution (EDGE) communications system,

a Wideband Code Division Multiple Access (W-CDMA) communications system,

a CDMA2000 communications system,

a Wireless Local Area Network (W-LAN) communications system.

50. (Previously Presented) A base station system node in a packet-based data communications system, said node being adapted to polling connected user equipment, wherein said node comprises

- first circuitry adapted for polling according to a first type, said first polling type allowing said user equipment to choose whether or not to transmit a data packet to the base station system in response to reception of polling of the first type and

- complementary second circuitry adapted for polling according to a second type, said second polling type requiring the user equipment to transmit a data packet to the base station system in response to reception of polling of the second type,

wherein said first polling type comprises polling with an uplink state flag and said second polling type comprises polling with a control block.

51. (Previously Presented) A user equipment in a packet-based data communications system, said user equipment being adapted to receive polling from a base station system in said communications system, wherein the user equipment comprises:

first circuitry for receiving and responding to polling of a first type, said first circuitry being adapted for optional transmission of a data packet to the base station system in response to said polling, and

complementary second circuitry for receiving and responding to polling of a second type, said second circuitry being adapted to mandatory transmission of a data packet to the base station system in response to the polling,

wherein said first polling type comprises polling with an uplink state flag and said second polling type comprises polling with a control block.

52. (Previously Presented) A user equipment according to claim 51, wherein said equipment further comprises third circuitry for identifying the polling type.

53. (Previously Presented) A user equipment according to claim 51, wherein said equipment further comprises:

-a buffer unit for storing user data packets awaiting transmission.

54. (Previously Presented) A user equipment according to claim 53, wherein said first circuitry and said second circuitry are adapted to check if there are any user data packets in the buffer in response to polling from the base station system.

55. (Previously Presented) A user equipment according to claim 53, wherein

said first circuitry is further adapted to receive polling according to said first type on a first logical channel, and

said second circuitry is further adapted to receive polling according to said second type on a second logical channel.

56. (Previously Presented) A system for polling in a packet-based data communications system adapted to polling said system comprising:

means adapted for polling user equipment in said communications system according to a first type and a complementary second type,

first responding means adapted for optionally transmitting a data packet from said

user equipment to a base station system in response to reception of polling according to said first type, and

complementary second responding means adapted for obligatory transmission of a data packet to the base station system in response to reception of polling according to said complementary second type,

wherein said first polling type comprises polling with an uplink state flag and said second polling type comprises polling with a control block.

57. (Previously Presented) A system according to claim 56, wherein the system further comprises:

control means adapted for analyzing the radio traffic situation in the packet-based data communication system, and for selecting which type of polling to perform.

58. (Previously Presented) A system according claim 55, wherein the communications system is selected from at least one of:

a General Packet Radio Service (GPRS) communication system,

an Enhanced GPRS (EGPRS) communication system,

a GPRS/Enhanced Data rates for GSM (Global System for Mobile communications) Evolution (EDGE) communications system,

a Wideband Code Division Multiple Access (W-CDMA) communications system,

a CDMA2000 communications system,

a Wireless Local Area Network (W-LAN) communications system.

59. (Previously Presented) A polling arrangement according to claim 40,

wherein said user equipment in response to reception of said polling of the second type transmits a user data packet to the base station system if said user data packet is available for transmission in the user equipment, otherwise the user equipment transmits a dummy data packet, and

wherein said user equipment in response to reception of said polling of type one shall send a user data packet to the base station system if said user data packet is available for transmission in the user equipment.

60. (Previously Presented) A polling arrangement according to claim 40,

wherein said user equipment in response to reception of said polling of the first type sends a user data packet to the base station system if said user data packet is available for transmission in the user equipment.

61. (Previously Presented) A base station system according to claim 44,

wherein said user equipment in response to reception of said polling of the second type transmits a user data packet to the base station system if said user data packet is available for transmission in the user equipment, otherwise the user equipment transmits the a dummy data packet, and

wherein said user data packet comprises user payload data and said dummy data packet comprises data enabling the base station system to identify the user equipment.

62. (Previously Presented) A base station system according to claim 44,

wherein said user equipment in response to reception of said polling of the first type sends a user data packet to the base station system if said user data packet is available for transmission in the user equipment.

63. (Previously Presented) A base station system node according to claim 50,

wherein said user equipment in response to reception of said polling of the second type transmits a user data packet to the base station system if said user data packet is available for transmission in the user equipment, otherwise the user equipment transmits the a dummy data packet, and

wherein said user data packet comprises user payload data and said dummy data packet comprises data enabling the base station system to identify the user equipment.

64. (Previously Presented) A base station system node according to claim 50,

wherein said user equipment in response to reception of said polling of the first type sends a user data packet to the base station system if said user data packet is available for transmission in the user equipment.

65. (Previously Presented) A system according to claim 56,

wherein said user equipment in response to reception of said polling of the second type transmits a user data packet to the base station system if said user data packet is

available for transmission in the user equipment, otherwise the user equipment transmits the a dummy data packet, and

wherein said user data packet comprises user payload data and said dummy data packet comprises data enabling the base station system to identify the user equipment.

66. (Previously Presented) A system according to claim 56,

wherein said user equipment in response to reception of said polling of the first type sends a user data packet to the base station system if said user data packet is available for transmission in the user equipment.

67. (Previously Presented) A method for operating a user equipment in a packet-based data communications system, where the user equipment receives polling from a base station system in the communications system, the method comprising:

receiving polling of a first type;

optionally transmitting a data packet to the base station system in response to the first type of polling; and

receiving and automatically responding polling of a second type, wherein the user equipment must transmit a data packet to the base station system in response to the second type of polling,

wherein said first polling type comprises polling with an uplink state flag and said second polling type comprises polling with a control block.

68. (Previously Presented) A method according to claim 67, further comprising identifying the polling type.

69. (Previously Presented) A method according to claim 67, further comprising storing in a buffer user data packets awaiting transmission.

70. (Previously Presented) A method according to claim 67, further comprising checking whether there are any user data packets in the buffer in response to polling from the base station system.

71. (Previously Presented) A method according to claim 67, further comprising:

receiving polling according to said first type on a first logical channel, and

receiving polling according to said second type on a second logical channel.

IX. EVIDENCE APPENDIX

There is no evidence appendix.

X. RELATED PROCEEDINGS APPENDIX

There is no related proceedings appendix.